



Vasavibala Resins (P) Ltd.

POLYMER DIVISION

Manufacturers of Unsaturated Polyester Resins
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TECHNICAL BROCHURE - UNSATURATED POLYESTER RESIN

GRADE: VBR 6720 –Pre accelerated Halogen free Iso Fire retardant Gelcoat

VBR 6720 is a versatile medium reactive pre accelerated Isophthalic based fire retardant unsaturated polyester resin designed for hand lay-up applications. It can be used in a wide range of products where fire retardant performance is needed. This resin contains inorganic fillers and other additives to ensure low smoke density and excellent fire retardant properties, with reference to IS 6746 - 1994, Type - 1.

It is a halogen, phosphorous and nitrogen base free fire retardant resin with styrene and acrylic monomer for good weather resistance characteristics.

PROPERTIES OF LIQUID RESIN		
Appearance	:	Whitish opaque liquid
Viscosity at 25°C, mPa.s (Brookfield Viscometer LV DV II + Pro Spindle 64, rpm 5)	:	25000 - 30000
Density @ 20°C , g/ml	:	1.1 – 1.3
Monomer content, %	:	32 - 34
Gel time at 25°C, min*	:	08 - 14
T max	:	>100 deg c
Shelf life at 25°C, months	:	3
Gloss Value	:	60 - 70

* Mix VBR 6720 Resin -100 gm, MEKP Catalyst - 1.5 ml.

** Under insulated condition for 100 gram mixture

PROPERTIES OF UNREINFORCED CURED RESIN CASTING

The specimens are prepared by mixing of MEKP with VBR 6720 and casted in a closed cell of specified dimension. These castings are cured for 24 hrs at room temperature and post curing at 90°C for 4 hrs.

PROPERTIES OF RESIN CASTING		
Hardness (Barcol)	:	30 – 40
Tensile strength, N/mm ²	:	45 – 48
Flexural strength, N/mm ²	:	85-95
Heat distortion temperature, °C	:	100
Water absorption at 25°C over a period of 700 hrs, %	:	0.35
Elongation at break, %	:	>1

Properties of FRP Panel

Horizontal Burning rate mm/minute IS 15061-2002 Clause 3.2 and Annex A	:	0
Vertical Burning rate mm/minute as IS: 15061-2002 Clause 3.3 Annex B	:	The flame extinguished before reaching the first marker thread
Melting Behaviour test as per IS 15061-2002 Clause 3.4, Annex C	:	No drop was formed which ignites the cotton wool
Toxicity Index as per NCD 1409	:	< 1
Limiting Oxygen Index IS 13501-1992	:	Min 28 %
Resistance to Spread of flame as per Appendix-04 of UIC 564-2	:	Class A
Smoke Visibility as per Appendix-15 of UIC 564-2	:	Class A

TEST METHODS

IS 6746 – 1994. IS-1998, ASTM –D2583-81

APPLICATION

VBR 6720 is recommended for wide range of applications where fire retardant performance is significant along with good chemical corrosion resistant characteristics. It is recommended to post cure the molded product for 6 hours at $80 \pm 5^{\circ}$ C in a dry atmosphere for optimum properties

STORAGE

VBR 6720 should be stored in closed containers inside covered area. The storage temperature not exceeding 30°C is preferable. At higher storage temperature, the shelf life decreases sharply. It should not be exposed to direct sunlight, heat radiation and moisture; these may cause premature gelation. VBR 6720 is guaranteed for 3 months from the date of manufacture provided the storage conditions are strictly adhered to. Mix the content thoroughly before use.

PACKING

40kg HDPE carbuoys and 250 kg steel coated barrels.